



WORKPLACE SAFETY AND HEALTH IN SOUTH CAROLINA

*From The
National Institute for Occupational Safety and Health*



State Profile 2002

*Delivering on the Nation's promise:
Safety and health at work for all people through prevention.*

The National Institute for Occupational Safety and Health

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in South Carolina.

The Burden of Occupational Illness and Injury in South Carolina

- In South Carolina, there are approximately 1.9 million individuals employed in the workforce.¹
- In 2000, 114 workers died as a result of workplace injuries.²
- The construction industry had the highest number of fatalities, followed second by manufacturing, and third by transportation and public utilities.²
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 7.2 deaths per 100,000 workers—above the national average rate of 4.5 deaths per 100,000 workers.²
- In 2000, there were 84,200 nonfatal workplace injuries and illnesses in South Carolina.³

The Cost of Occupational Injury and Illness in South Carolina

In 2000, the most recent year for which data are available, a total of \$596.5 million was paid for workers' compensation claims by South Carolina private insurers, self-insured employers, and state funds.⁴ This figure does not include workers who are employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

How NIOSH Prevents Worker Injuries and Diseases in South Carolina

Health Hazard Evaluations (HHEs) and Technical Assistance

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 26 requests for HHEs in South Carolina in a variety of industrial settings, including the following example:

Conway, South Carolina: Indoor Environmental Quality (Carbon Monoxide and Mold)

In 1999, employees working at the Horry County Assessor's Office requested an HHE to evaluate carbon monoxide levels and mold in the building. NIOSH investigators concluded that various indoor environmental quality deficiencies existed in the building, including inadequate amounts of outside air to some offices, localized microbial reservoirs, and numerous ongoing moisture incursion or moist conditions. However, investigators found no clear evidence to link these conditions to health complaints. Recommendations included improving the ventilation system and eliminating the wet conditions.

Fatality Assessment and Control Evaluation (FACE) Investigations

NIOSH developed the FACE program to identify work situations with a high risk of fatality and to formulate and disseminate prevention strategies. Since 1995, there have been 29 FACE investigations in South Carolina, including the following example:

Female Worker Dies at a Highway Construction Site

On April 19, 1999, a 38-year-old female highway construction worker died after the compactor she was operating slipped off the edge of the road surface while backing up, tipped on its side, and pinned her underneath. Two days prior to the incident, the company had delivered the new compactor equipped with a rollover protective structure (ROPS), but no seatbelts. The victim was operating the compactor, with the enclosed cab door open, back and forth over a built-up road bed when she backed up near the edge and the earth under the rear tires gave way. NIOSH recommendations included ensuring that: all ROPS-equipped vehicles are also equipped with functioning seatbelts; all operators wear seatbelts when operating machinery equipped with ROPS; employees comply with company rules; and the company complies with state and federal regulations pertaining to occupational safety and health.

Fire Fighter Fatality Investigation and Prevention Program

The purpose of the NIOSH Fire Fighter Fatality Investigation and Prevention Program is to determine factors that cause or contribute to fire fighter deaths suffered in the line of duty. NIOSH uses data from these investigations to generate fatality investigation reports and a database of case results that guides the development of prevention and intervention activities. Since 1997, there have been four fire fighter fatality investigations in South Carolina, including the following example:

South Carolina: Volunteer Fire Fighter Struck by Eighteen-Wheel Tractor Trailer Truck

On September 27, 1999, one male volunteer fire fighter died while providing assistance with traffic control for fire fighters responding to a tractor trailer wreck. The victim drove a rescue unit to an area that provided the most visibility and warning to oncoming traffic. After approximately 40 minutes, a truck driver stopped and informed the fire fighters responding to the wreck that he had just passed a fire fighter who was lying on the ground in front of a fire truck. The victim and the truck he drove had both been struck by a tractor trailer

truck. NIOSH investigators concluded that, to minimize the risk of similar incidents, fire departments should: establish, implement, and enforce standard operating procedures for highway incident emergency operations; ensure that fire fighters responding to a fire or highway incident control the oncoming vehicles before safely tending to the emergency; ensure that personnel park unneeded vehicles off the highway whenever possible; ensure that personnel wear personal protective clothing such as a highly visible reflectorized flagger vest; ensure that personnel conducting traffic control measures use a highly visible stop/slow paddle; and establish pre-incident plans for areas that have a higher rate of automobile incidents.

Building State Capacity

State-Based Surveillance

NIOSH funds the Adult Blood Lead Epidemiology and Surveillance Program (ABLES) in the South Carolina Department of Health and Environmental Control. Through ABLES, the agency's staff can track and respond to cases of excessive lead exposure in adults which can cause a variety of adverse health outcomes such as kidney or nervous system damage and potential infertility.

University of South Carolina

The purpose of this program is to provide graduate training in industrial hygiene in the Department of Environmental Health Sciences. In fiscal year 2001, there were 10 students enrolled in the program and five graduates.

Extramural Programs Funded by NIOSH

The following is an example of recent research grants, training grants, or cooperative agreements funded by NIOSH in the state of South Carolina.

Investigating Principles of Workroom Exposure

While an essential element of occupational epidemiology and industrial hygiene, exposure assessment is often the weakest link in research on the relationship between chemical exposure and occupational disease. With support from NIOSH, researchers at the University of South Carolina will help develop more reliable exposure assessment methods by investigating how physical factors in a workroom affect worker exposure and its variation. These factors include work area airflow characteristics, work area physical configuration, source characteristics, and worker activities. The model developed will be evaluated in several workrooms.

Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at <http://www.cdc.gov/niosh/homepage.html> or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).

¹U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

²DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

³DOL, BLS in cooperation with participating state agencies, Survey of Occupational Injuries and Illnesses, 2000.

⁴National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates*, May 2002.

